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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/802,056	03/17/2004	Eun-seok Choi	Q80076	1702

23373 7590 12/12/2006

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EXAMINER	
TRAN, DALENA	

ART UNIT	PAPER NUMBER
3661	

DATE MAILED: 12/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/802,056	CHOI ET AL.	
	Examiner	Art Unit	
	Dalena Tran	3661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 March 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *1-6 and 12-17* is/are allowed.

6)☒ Claim(s) *7-9 and 18-20* is/are rejected.

7)☒ Claim(s) *10-11,21 and 22* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Notice to Applicant(s)

1. This application has been examined. Claims 1-22 are pending.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 7-8, and 18-19, are rejected under 35 U.S.C.103(a) as being unpatentable over Lin (6658354) in view of T.L.Wilson (3545266).

As per claim 7, Lin discloses an input system based on a three-dimensional inertial navigation system and having an input part and a host device, and for detecting motion position information corresponding to three-dimensional motions of the input part and outputting the detected motion position information to the host device, comprising: acceleration sensors for outputting motion acceleration information (see column 16, lines 8-23). Lin does not disclose a rotation angle. However, T.L.Wilson discloses a rotation angle information estimation-computing portion for estimating motion rotation angle information Φ, θ, and Ψ based on acceleration information based on the gravitational acceleration separated from the outputted motion acceleration information (see columns 1-2, lines 28-56; column 3, lines 26-47; columns 5-6, lines 31-19; columns 11-13, lines 57-7; and columns 18-19, lines 47-43), a conversion-computing unit for calculating motion position information based on the estimated motion rotation angle information and the outputted motion acceleration information (see columns 8-9, lines 73-34), and an

optimal plane-computing unit for projecting the motion position information onto an optimal plane (see columns 9-11, lines 73-20; and column 23, lines 1-53). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teach of Lin by combining a rotation angle for detecting motion position on inertial navigation system.

As per claim 8, T.L.Wilson discloses a separation unit for separating acceleration information based on the motions of the input part itself and acceleration information based on the gravitational acceleration from the outputted motion acceleration information based on a predetermined process (see columns 6-7, lines 20-50; and columns 16-17, lines 50-20), and a computing unit for calculating the motion rotation angle information through a predetermined computing process based on the acceleration information based on the separated gravitational acceleration (see columns 7-8, lines 51-30; and columns 26-27, lines 19-8).

Claims 18-19, are method claims corresponding to system claims 7-8 above. Therefore, they are rejected for the same rationales set forth as above.

4. Claims 9, and 20, are rejected under 35 U.S.C.103(a) as being unpatentable over Lin (6658354), and T.L.Wilson (3545266) as applied to claim 8 above, and further in view of Chowdhary (6282496).

As per claim 9, Lin, and T.L.Wilson do not disclose gravitational acceleration. However, Chowdhary discloses the predetermined process for separating the acceleration information based on the gravitational acceleration from the motion acceleration information is to pass the motion acceleration information through a low-pass filter (see column 10, lines 1-46; and column 12, lines 9-65). It would have been obvious to one of

ordinary skill in the art at the time the invention was made to modify the teach of Lin, and T.L.Wilson by combining gravitational acceleration for inertial guidance navigation system.

Claim 20, is a method claim corresponding to system claim 9 above. Therefore, it is rejected for the same rationales set forth as above.

5. Claims 10-11, 21-22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 1-6, and 12-17 are allowable.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

. Neumann (5956660)

. Berstis (6337688)

. Berstis (6542824)

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dalena Tran whose telephone number is 571-272-6968. The examiner can normally be reached on M-F 6:30 AM-4:00 PM), off every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Black can be reached on 571-272-6956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Patent Examiner
Dalena Tran

December 7, 2006